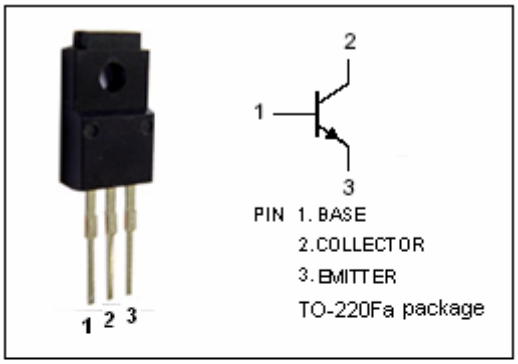
isc Silicon NPN Power Transistor BD933F/935F/937F/939F/941F

DESCRIPTION

- DC Current Gain-
  : h_{FE}= 40(Min)@ I_C= 150mA
- Complement to Type BD934F/936F/938F/940F/942F

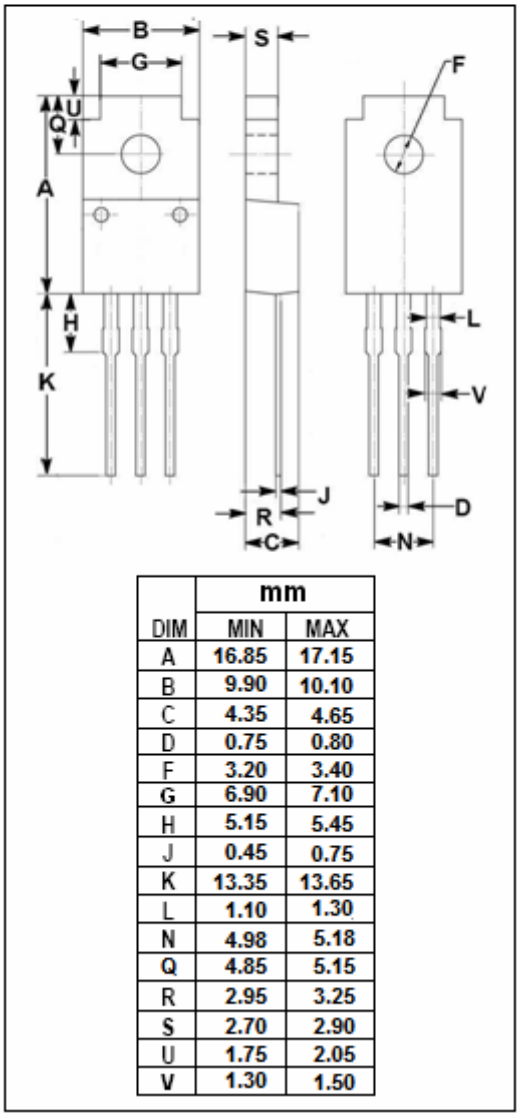
APPLICATIONS

- Designed for use in output stages of audio and television amplifier circuits where high peak powers can occur.



ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BD933F	45	V
		BD935F	60	
		BD937F	100	
		BD939F	120	
		BD941F	140	
V_{CEO}	Collector-Emitter Voltage	BD933F	45	V
		BD935F	60	
		BD937F	80	
		BD939F	100	
		BD941F	120	
V_{EBO}	Emitter-Base Voltage		5	V
I_C	Collector Current-Continuous		3	A
I_{CM}	Collector Current-Peak		7	A
I_B	Base Current-Continuous		0.5	A
P_C	Collector Power Dissipation @ T_C=25℃		19	W
T_J	Junction Temperature		150	℃
T_{stg}	Storage Temperature Range		-65~150	℃



DIM	mm MIN	MAX
A	16.85	17.15
B	9.90	10.10
C	4.35	4.65
D	0.75	0.80
F	3.20	3.40
G	6.90	7.10
H	5.15	5.45
J	0.45	0.75
K	13.35	13.65
L	1.10	1.30
N	4.98	5.18
Q	4.85	5.15
R	2.95	3.25
S	2.70	2.90
U	1.75	2.05
V	1.30	1.50

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	4.17	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	55	℃/W

isc Silicon NPN Power Transistor BD933F/935F/937F/939F/941F

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BD933F	I_C= 100mA ; I_B= 0	45			V
		BD935F		60			
		BD937F		80			
		BD939F		100			
		BD941F		120			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		I_C= 1A; I_B= 0.1A			0.6	V
$V_{BE(on)}$	Base-Emitter On Voltage		I_C= 1A; V_{CE}= 2V			1.3	V
I_{CBO}	Collector Cutoff Current		V_{CB}= V_{CBOmax}; I_E= 0 V_{CB}= V_{CBOmax}; I_E= 0,T_J=150℃			0.1 3.0	mA
I_{CEO}	Collector Cutoff Current		V_{CE}= V_{CEOmax}; I_B= 0			0.5	mA
I_{EBO}	Emitter Cutoff Current		V_{EB}= 5V; I_C= 0			1.0	mA
h_{FE-1}	DC Current Gain		I_C= 150mA ; V_{CE}= 2V	40		250	
h_{FE-2}	DC Current Gain		I_C= 1A ; V_{CE}= 2V	25			
f_T	Current-Gain—Bandwidth Product		I_C= 250mA ; V_{CE}= 10V	3			MHz

Switching Times

t_{on}	Turn-On Time	I_C= 1.0A; I_{B1}= -I_{B2}= 0.1A		0.4	1.0	μs
t_{off}	Turn-Off Time			1.5	3.0	μs